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**Article:**

**An evaluation of the effect of peer mentoring on assessment preparation and performance in students new to undergraduate physiotherapy education.**

Short Title: Peer mentoring benefits assessment preparation and performance in students new to higher education

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# **An evaluation of the effect of peer mentoring on assessment preparation and performance in students new to undergraduate physiotherapy education.**

Short Title:

Peer mentoring benefits assessment preparation and performance in students new to higher education

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## **Abstract**

### **Background**

Mentoring involves pairing inexperienced students with a more experienced peer who can act as a positive role model. The aim of this study was to explore the role of peer mentoring in assessment preparation and performance for students new to higher education.

### **Methods**

A 60 minute café style workshop was arranged and students were invited to meet with experienced mentors. Discussions were facilitated focusing on: reflection on formative assessment, experience of year 1 assessment, top revision tips and free discussion. A questionnaire was used to gather feedback identifying benefits and drawbacks and Semester 1 module results were compared to the year group mean performance.

### **Results**

29 students attended the workshop. 100% of students found the meeting beneficial and reported receiving valuable advice, feeling reassured afterwards and were keen to adopt new approaches to study. Exam performance was above the average for their year group in each module.

### **Conclusion**

Peer mentoring from experienced students can play a positive role in assessment preparation for students new to higher education and its inclusion in should be

considered in undergraduate programmes. Students who engaged with mentoring report it was beneficial, offered reassurance and was associated with higher assessment performance.

## **Key words**

Mentoring, Higher Education, Assessment

## **Introduction**

Transition of students into higher education has been an area of increasing interest to researchers, academics, higher education institutions and policy makers, yet it has no agreed definition (Colley, 2007). There is thought to be three different approaches to conceptualising transition: as induction, a defined time period at the beginning of the higher education journey; as development, complex transformations which lead to changes in self-concept and learning; and as becoming, linked to learning and development beyond higher education taking place across the life course and related to wider social context (Gale and Parker, 2014).

Regardless of how it is conceptualised, transition for students into higher education is widely accepted to be a time of enormous potential that can lead to academic, psychological and social transformation. However it also exposes students to significant challenges in terms of co-habitation with peers, increasing distance from social and familial support, financial burden, academic pressure and demanding workloads (Mulholland et al., 2008, Glossop, 2001, Urwin et al., 2010). This can lead to negative effects on the physical and mental health of students, increasing the risk of low back pain, sinus infection, and strep throat and the experience of stress, anxiety and /or depression (Hussain et al., 2013). It has been reported that the incidence of mental health conditions is higher in undergraduate students than the general public (January et al., 2018, Ibrahim et al., 2013, Mkize et al.)

A risk factors for the development of anxiety in undergraduate students in examination anxiety (Khoshhal et al., 2017). This is a set of responses that include excessive rumination, low mood, decreased confidence and irrelevant thinking related to the thought of examination or its outcome (Rasor, 1998). It is said to be experienced by 20-35% of all students (McDonald, 2001) and can be more common in undergraduate health programmes such as nursing and medicine (Glossop, 2001, Anuradha et al., 2017). As a result of this Universities UK (2015) recommend higher education institutions promote the health and wellbeing of their students by offering a range of initiatives to reduce the risk of, or manage mental health problems.

Peer mentoring, also known as peer assisted learning, co-operative learning, collaborative learning or peer coaching (Sevenhuysen et al., 2013) is one approach that could be utilised by higher education institutions to support students in transition into higher education and during their academic journeys (Christiansen and Bell, 2010). It involves pairing inexperienced students with more a more experienced peer to share ideas, knowledge and experience in a way that can be mutually beneficial (Topping and Ehly, 2001). It has been known to be a cost effective method of supporting students at key stages of higher education. It provides a safety net in the first few days of university transitioning from their previous life to higher education, provides a forum for less experienced users to gain academic support and guidance, helps instil a sense of belonging and reduces social isolation and provides valuable and transferable employability skills (Andrews and Clark, 2009, Carragher and McGaughey, 2016, Toklu and Fuller, 2017).

Research on the topic of mentoring is limited (Andrews and Clark, 2009) and the vast majority of research that has been completed is related to education or professional practice in nursing, midwifery and medical (Carragher and McGaughey, 2016). Little is known about the effects of mentoring in undergraduate physiotherapy programmes or on the effect of mentoring on preparation for undergraduate examinations and further research is required to increase the knowledge of peer mentoring and its effects on supporting students during their academic journey (Christiansen and Bell, 2010). Therefore, the aim of this study is to explore the role of peer mentoring in assessment preparation for students new to higher education in an undergraduate physiotherapy programme.

## **Materials and Methods**

A 60 minute café style workshop was arranged during Semester 1 after all module formative assessments had been completed. The session was planned with Keele Student Services, an experienced Keele Mentor and the Year 1 Head of Study. The session was structured to facilitate informal discussions focusing on: reflection on formative assessment, experience of year 1 assessment, top revision tips and free discussion.

## **Participants**

27 SHAR Mentors were invited to participate in the workshop via email. All mentors had attended a Keele Mentor Training session ran by student services covering aspects such as: what is a mentor, mentoring process, challenges, support available, communication, keeping records, running a mentor meeting, confidentiality and practice scenarios. All mentors had access to Keele University Student Services personnel, an experienced year 3 mentor and the Year 1 Head of Study.

All first year BSc (Hons) Physiotherapy and BSc (Hons) Rehabilitation Science students were invited to participate in the workshop via email and an in-class explanation of the workshop.

## Outcomes

A questionnaire was created using Google Forms and sent to all students who had attended the workshop which was used to gather feedback on the workshop identifying benefits and drawbacks and to identify any practical implications from the study. Semester 1 module results for those students who attended were evaluated by comparing to the year group mean performance.

## Data Analysis

Results from the Questionnaire were downloaded from Google Forms in a spreadsheet and uploaded to SPSS Statistics for Windows (IBM Corp. Released 2016. Version 24.0. Armonk, NY: IBM Corp) which was used to analyse the results. Coding was used to analyse open ended question; initially themes were identified and then analysed in greater detail to identify trends or patterns in the replies.

Examination results were obtained from university systems. Mean and standard deviations were calculated for the group of year 1 students who attended the workshop, and compared to the overall module mean mark and standard deviation for the modules reported in end of semester examination boards.

## Results/Discussion

29 students attended the workshop (n=14 year 1 students, 15 mentors). Feedback from the questionnaires was received from 14 students (n=7 year 1 students, n=7 mentors). 100% of respondent's reported that they found the facilitated mentor meeting beneficial. Reported benefits are displayed in table 1.

Table 1 reported benefits from mentor meeting

Benefit	Mentors	Students
Share / Receive Advice	5	5
Reassure	4	4
Reflect on performance	1	0
New approaches to study	0	2

## Advice

Both mentors and year 1 students reported that they found the meeting a useful forum to give and receive feedback. Mentors reported:

- “It’s nice to give advice to the year 1 about do’s and don’t’s for examination”
- “it was great sharing what I could have done better and passing on advice”
- “I think it was good to catch up with the first years and to be able to pass on some advice for what they can expect from the rest of the year ”

Year 1 students reported:

- “It is helpful to know different method [Sic] to revise and how to cope with new style of exam ”
- “Useful to hear what not to do! ”

This is consistent with numerous studies that demonstrate that peer mentoring leads to mutual benefits for both mentors and mentees (Turban and Dougherty, 1994, Andrews and Clark, 2009, Christiansen and Bell, 2010, Feldman et al., 2010) . Mentees can benefit from gaining knowledge, insight and practical tips from mentors who have direct experience of the environment and circumstances year 1 students are now navigating, although mentors are not and should not be considered subject experts. This can lead to improvements in confidence, self-esteem and personal growth (Burnard et al., 2001, Glass and Walter, 2000). As the mentor-mentee relationship is informal, and non-hierarchical, it is possible that mentees experience less stress during these discussions and can be open and honest about the areas in which they need support, their limitations and worries (Christiansen and Bell, 2010)

There is a growing emphasis in higher education on the development of generic graduate attributes that promote employability and enhance academic competencies, citizenship and career competencies beyond the discipline studied (Hill and Walkington, 2016, Barnett, 2000). Involvement in the mentoring process can lead to the development of important employability traits such as an ability to self-manage, leadership and communication skills (Turban and Dougherty, 1994). These professional skills can be a challenge to embed in healthcare curriculums with simulated scenarios, role play and clinical practice being preferred over didactic approaches (Denniston et al., 2019, Carvalho et al., 2014). As such an effective

mentoring program could therefore be considered as a valid approach to enhance the professional skills of undergraduate students.

## **Reassurance**

Both mentors and year 1 students reported that they found the meeting a useful form to give and receive assurance related to assessment preparation and performance. Mentors reported:

- “It was nice to see that I could help the first years with their exams and reassure them not to stress too much”
- “The first year students left feeling more relaxed and able for January exams I feel.”

Year 1s reported:

- “The SHAR mentors put my worries at ease...”
- “Made me feel calmer as they gave good advice.”

Examination periods are widely perceived by students to be times of great stress (Dyrbye and Shanafelt, 2016); this can be related to time pressures, volume of learning materials, competing demands, expectations, perceptions of being behind peers, feeling inadequate and lack of appropriate knowledge and skills (Yusoff et al., 2010, Khoshhal et al., 2017, Calkins et al., 1994). Some examination anxiety can be a positive and lead to enhanced performance, however excessive anxiety is thought to play a major role in poor performance (McDonald, 2001). Mentees have reported that mentoring has played a valuable role in helping to allay examination anxiety, reducing worries and providing a sense of calm. Mentors may provide a valued source of emotional support and reduce social isolation that can be experienced during assessment preparation (Turban and Dougherty, 1994, Andrews and Clark, 2009).

## **Reflection**

A mentor found the meeting a useful forum to reflect back on their own year 1 examination performance. They reported:

- “it was great reflecting back on to first year and sharing what I could have done better”

All healthcare professionals registered with the Health and Care Professions Council (HCPC) and students on HCPC validated courses are expected to engage in continuous professional development (Health and Care Professions Council, 2016 ). Reflective practice is an important tool for professional development and can lead to enhanced learning (Jayatilleke and Mackie, 2012). It is thought to improve self-awareness, develop clinical skills and knowledge, link concepts and encourage

ownership of the learning process (Jayatilleke and Mackie, 2012). As such, mentoring may encourage students to take greater control of their own learning and may facilitate the development of a more autonomous learner and practitioner, however, this was only reported by one student and should therefore be considered with caution.

## Development

2 year 1 students reported that they were made aware of new revision approaches which they planned to integrate into their assessment preparation. A student reported:

- “It is helpful to identify different methods to revise...”

One of the most valuable roles undertaken by peer mentors is that they can help fellow students ‘learn how to learn’ at a higher level (Andrews and Clark, 2009). The use of more experienced students to support and advise students can have a positive effect on student development and lead to improvements in confidence, self-efficacy and academic development (Sambunjak et al., 2006).

## Assessment Performance

In total year 1 students sat 70 individual module assessments and passed 68; a pass rate of 97%, this included a multiple choice questionnaire, an essay, and two oral examinations. Module performance of those students who attended was superior when compared to the overall module performance as shown in table 2.

Table 2 Mean(SD) Module performance for Semester 1 Assessments

	Year 1 Attendee's	Overall Module Mark
Module A	63.48 (16.26)	58 (15)
Module B	64.64 (15.41)	58.6 (23)
Module C	56.57 (14.37)	52 (18.2)

It is possible that the engagement in peer mentoring, which reportedly led to obtaining valuable advice, reassurance, and academic development, could be associated with improved academic performance. The benefits previously discussed such as reduction in stress, social support, improved confidence, self-efficacy and personal growth and enhanced knowledge and clinical skills are all associated with improved academic performance (Carragher and McGaughey, 2016, Christiansen and Bell, 2010, Sambunjak et al., 2006, McDonald, 2001). However, it is also possible that as the mentoring program was voluntary, it could have attracted students who were highly engaged in the course, and we likely to excel in examination performance as a result. It is thought that students who seek out mentorship tend to be highly confident, competent, have a strong desire to learn and be socially proactive (Turban and Dougherty, 1994). These students may see peer mentoring as another valuable



learning opportunity and use it to complement their academic development accordingly.

## **Recommendations for future Research**

Research on the role of peer mentoring is limited, especially so in its effect on examination preparation and performance. Further research is required to confirm the findings of this study that peer mentoring was associated with improved assessment performance. Research should be prospective, longitudinal, use control groups consisting of those students who decline mentoring and objective outcomes measures, for example, to monitor changes in confidence, self-efficacy and anxiety. The majority of research to date stems from Nursing, Midwifery and Medicine undergraduate or professional practice; it is vital that more diverse populations are utilised. Different approaches to peer mentoring should also be evaluated in order to identify best practice.

## **Conclusion**

Peer mentoring can play a positive role in assessment preparation and performance for students new to higher education and its inclusion in should be considered in undergraduate programmes. Students who engaged with mentoring report it was beneficial, offered reassurance and was associated with higher assessment performance. However, it is also possible that as the mentoring program was voluntary, it could have attracted students who were highly engaged in the course, and were likely to excel in examination performance as a result. Further research is required to enhance knowledge on the effects of peer mentoring and identify the most effective approach.

## **Conflict of Interest Statement**

The author declares there are no conflicts of interest.

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